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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/507,206

04/20/2005

Javier Marti Sendra

027318-00003

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09/06/2006

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EXAMINER

BLEVINS, JERRY M

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/507,206	MARTI SENDRA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jerry Martin Blevins	2883	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 21, 2006 has been entered.

### ***Response to Arguments***

Applicant's arguments, see page 5, filed August 21, 2006, with respect to claims 8-17 have been fully considered and are persuasive. The objection of claims 8-17 has been withdrawn. Applicant's amendment has overcome the objection.

Applicant's arguments, see pages 5-7, filed August 21, 2006, with respect to the rejection(s) of claim(s) 7-11 and 15-17 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of additional teachings provided by previously applied prior art reference to Lowery et al., US 6,882,772. See rejection below for specifics.

Applicant's arguments, see pages 7 and 8, filed August 21, 2006, with respect to rejection(s) of claim(s) 12-14 under 35 U.S.C. 103(a) have been fully considered but

they are not persuasive. Namely, examiner maintains that a motivation for combining the applied references, and not a mere recitation of obviousness, has been given. The citation of page 6 from the previous office action reveals such motivation; namely, enhancement of WDM by the allowance of bi-directional WDM.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 7-11 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery.

Regarding claim 7, Lowery teaches a multiple delay line (Figure 1, element 12) comprising an arrayed waveguide grating (column 2, lines 25-34) comprising a plurality of input ports (4) and a plurality of output ports (8) and a plurality of sections of a dispersive optical medium (Figure 1, element 2) forming at least one feedback line in the arrayed waveguide grating (column 6, lines 6-22), wherein a different delay is introduced for each wavelength in an optical carrier according to a free spectral range of the arrayed waveguide grating, wherein the different delays of the wavelengths in the optical carrier form a delay profile of the optical carrier (column 5, lines 41-59, column 4, lines 35-42, and column 3, lines 18-34), wherein the different delays are obtained by dispersion occurring in the plurality of sections of the dispersive optical medium (column 6, lines 6-13). Lowery does not teach an AWG, wherein the plurality of sections of the dispersive optical medium have lengths with a constant linear incremental increase.

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However, Lowery teaches that AWG can exhibit this property (column 2, line 60 – column 3, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lowery with the constant linear incremental increase of length. The motivation would have been to provide temperature stability and to ease mass production (column 2, line 60 – column 3, line 17).

Regarding claim 8, Lowery renders obvious the above limitations of the base claim 7. Lowery also teaches that the plurality of sections of the dispersive optical medium comprises at least one of a section of a dispersive optical fiber, a diffraction network, and a medium that is dispersive in both transmission and reflection (column 1, lines 35-47 and column 2, lines 25-34).

Regarding claim 9, Lowery renders obvious the above limitations of the base claim 7. Lowery also teaches that the at least one feedback line forms loop-back configuration (column 6, lines 6-13).

Regarding claim 10, Lowery renders obvious the above limitations of the base claim 9. Lowery also teaches that the at least one feedback line extends between one of the input ports and a corresponding one of the output ports (column 6, lines 6-13).

Regarding claim 11, Lowery renders obvious the above limitations of the base claim 9. Lowery also teaches that the at least one feedback line extends between one of the input ports and a non-corresponding one of the output ports (column 6, lines 14-22).

Regarding claim 15, Lowery renders obvious the above limitations of the base claim 7. Lowery also teaches that the delay introduced by the multiple delay line is a

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multiple of the free spectral range of the arrayed waveguide grating (column 5, line 60 – column 6, line 5).

Regarding claim 16, Lowery renders obvious the above limitations of the base claim 7. Lowery also teaches that a different delay profile is created for each optical carrier of a plurality of optical carriers simultaneously introduced into the multiple delay line (column 5, lines 60-65).

Regarding claim 17, Lowery renders obvious that the at least one feedback line is formed between at least one of an input port, an output port, two different input ports, two different output ports, and an input port and an output port (column 6, lines 6-22).

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery in view of US Patent to Lee et al., number 6,735,391.

Regarding claims 12 and 14, Lowery renders obvious the above limitations of the base claim 7. Lowery does not explicitly teach that the at least one feedback line forms a fold-back configuration fold-back configuration. Lee teaches a feedback line which forms a feed-back configuration (column 3, line 66 – column 4, line 3), which includes feedback lines extending between the same output port. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Lowery with the fold-back configuration of Lee. The motivation would have been to enhance WDM by allowing for bi-directional WDM (Lee, column 3, line 66 – column 4, line 3, the desirability of this taught by Lowery in column 6, lines 14-22).

Regarding claim 13, Lowery in view of Lee renders obvious the above limitations of the base claim 12. Lowery also teaches that the at least one feedback line extends between two different output ports (column 6, lines 14-22).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMB

  
Supervisory Patent Examiner  
Technology Center 2800